

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-34. (canceled)

35. (new) Apparatus for cleaning air, the apparatus comprising a chamber having an inlet and an outlet, through which air to be cleaned is passable, a plurality of UV light sources to irradiate the interior of the chamber and one or more UV transmissible shield members isolating the UV light sources, in use, from the air to be cleaned and wherein at least some of the UV light sources are mounted on a common mounting means such that said some of the UV light sources are removable together from the apparatus.

36. (new) Apparatus according to Claim 35, further comprising filter means upstream of said UV light sources.

37. (new) Apparatus cleaning air, the apparatus comprising a chamber having an inlet and an outlet, through which air to be cleaned is passable, one or more UV light sources to irradiate the interior of the chamber and one or more UV transmissible shield members isolating the UV light sources, in use, from the air to be cleaned and filter means upstream of the or each UV light source, and wherein upstream of said filter means is located air flow equalising means which, in use, ensures that the flow of air through said filter means is substantially constant across the area of said filter means.

38. (new) Apparatus according to Claim 37, wherein at least the downstream surface of said air flow equalising means is at least partially UV reflective.

39. (new) Apparatus for cleaning air, the apparatus comprising a chamber having an inlet and an outlet, through which air to be cleaned is passable, one or more UV light sources to irradiate the interior of the chamber and one or more UV transmissible shield members isolating the UV light sources, in use, from the air to be cleaned and filter means upstream of the or each UV light source, and wherein upstream of said filter means is located a UV reflector arranged to allow air to flow therethrough but to prevent UV light from passing therethrough at least a portion of incidental UV light being reflected towards said filter means.

40. (new) Apparatus according to Claim 39, wherein the UV reflector forms part of air flow equalising means which, in use, ensures that the flow of air through said filter means is substantially constant across the area of said filter means.

41. (new) Apparatus according to Claim 37, wherein said air flow equalising means comprises a plurality of angled air flow paths.

42. (new) Apparatus according to Claim 41, wherein the angle of the air flow paths is about 45° to the major flow axis of air passing through the apparatus.

43. (new) Apparatus according to Claim 37, wherein said air flow equalising means comprises a plural-layered structure each layer comprising a plurality of angled flow paths.

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44. (new) Apparatus according to Claim 43, wherein the flow paths of adjacent layers of said air flow equalising means are not parallel to encourage, in use, air flowing therethrough to adopt a tortuous flow path.

45. (new) Apparatus according to Claim 40, wherein said air flow equalising means comprises a plural-layered structure each layer comprising a plurality of angled flow paths.

46. (new) Apparatus according to Claim 35, wherein the UV transmissible shield member or members is/are formed from quartz, fused silica, UV transmissible plastics or other suitable materials.

47. (new) Apparatus according to Claim 37, wherein the UV transmissible shield member or members is/are formed from quartz, fused silica, UV transmissible plastics or other suitable materials.

48. (new) Apparatus according to Claim 39, wherein the UV transmissible shield member or members is/are formed from quartz, fused silica, UV transmissible plastics or other suitable materials.

49. (new) Apparatus according to Claim 35, wherein the or each UV light source is a UV lamp, emitting light in the UV-C band.

50. (new) Apparatus according to Claim 35, wherein the or each UV light source is of non-circular cross-sectional shape.

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51. (new) Apparatus according to Claim 37, wherein the or each UV light source is of non-circular cross-sectional shape.

52. (new) Apparatus according to Claim 39, wherein the or each UV light source is of non-circular cross-sectional shape.

53. (new) Apparatus according to Claim 35, wherein the UV light sources are arranged, in use, to provide a mean level of radiation in the chamber of above 10 mW cm⁻²).

54. (new) Apparatus according to Claim 53, wherein the UV light sources are arranged, in use, to provide a mean level of radiation in the chamber of at or above 60 mWcm⁻².

55. (new) Apparatus according to Claim 35, wherein the UV transmissible shield member provides at least part of a boundary defining the flow path of the air to be cleaned.

56. (new) Apparatus according to Claim 55, wherein the UV transmissible shield member is a tube mounted within the chamber, the air to be cleaned being flowable thorough the tubular shield member, the UV light sources being located between the chamber wall and the shield member.

57. (new) Apparatus according to Claim 55, wherein the UV transmissible shield member provides at least one wall of the chamber, the or each UV light source being located outside of the to-be-cleaned air flow path.

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58. (new) Apparatus according to Claim 57, wherein the or each UV light source is located adjacent a UV reflective surface to reflect impinging UV radiation into the chamber.

59. (new) Apparatus according to Claim 35, wherein the UV transmissible shield member(s) comprises one or more tubes which extend across the chamber, a UV light source being mounted within the or each tubular UV transmissible shield members.

60. (new) Apparatus according to Claim 35, wherein the chamber comprises one or more walls which comprise a UV reflective surface.

61. (new) Apparatus according to Claim 60, wherein said one or more walls comprising a UV reflective surface may be shaped to present a concave surface as viewed from the major axis of the flowing air.

62. (new) Apparatus according to Claim 35, further comprising filter means situated across the outlet.

63. (new) Apparatus according to Claim 62, wherein said outlet filter means comprises a HEPA filter element.

64. (new) Apparatus according to Claim 62, wherein said outlet filter means comprises a combustible frame, such as one fabricated from wood, a derivative of wood or the like.

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65. (new) Apparatus according to Claim 37, wherein said upstream, inlet filter means is fabricated from a UV transmissible material.

66. (new) Apparatus according to Claim 37, wherein said upstream, inlet filter means is coated and/or impregnated with an antimicrobial or biostatic substance.

67. (new) Apparatus according to Claim 35, further comprising a component made of a material which releases hydroxyl radicals.

68. (new) Apparatus according to Claim 37, further comprising a component made of a material which releases hydroxyl radicals.

69. (new) Apparatus according to Claim 39, further comprising a component made of a material which releases hydroxyl radicals.

70. (new) Apparatus according to Claim 35, comprising a plurality of UV light sources, one power supply being present for each pair of UV light sources.

71. (new) Apparatus according to Claim 37, comprising a plurality of UV light sources, one power supply being present for each pair of UV light sources.

72. (new) Apparatus according to Claim 39, comprising a plurality of UV light sources, one power supply being present for each pair of UV light sources.

73. (new) Apparatus according to Claim 70, wherein the or each power supply is tunable to deliver less or more power to the UV light sources to which it is connected.

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74. (new) Apparatus according to Claim 70, further comprising UV monitoring means arranged to control the or each power supply to increase or decrease the power supplied, thereby ensuring that the UV irradiation within the chamber is monitored and/or kept within tolerable limits.

75. (new) Apparatus for cleaning air, the apparatus) comprising a chamber, having an inlet and an outlet, through which air to be cleaned is passable, a plurality of UV light sources to irradiate the interior of the chamber and one or more UV transmissible shield members isolating the UV light sources, in use, from the air to be cleaned and wherein two or more UV light sources are supplied with power from a tunable power source, said two or more UV light sources having UV monitoring means associated therewith, said UV monitoring means being arranged in operative feedback control of the power source to ensure UV output from the UV light sources is within tolerable limits.

76. (new) A portable air cleaning unit, the unit comprising a housing in which is located air cleaning apparatus according to Claim 35 and air movement means operable to cause air to flow from the inlet to the outlet of the air cleaning apparatus.

77. (new) A portable air cleaning unit, the unit comprising a housing in which is located air cleaning apparatus according to Claim 37 and air movement means operable to cause air to flow from the inlet to the outlet of the air cleaning apparatus.

78. (new) A method of cleaning air, the method comprising moving air through air cleaning apparatus as claimed in Claim 35 and expelling cleaned air.